

Sink traps are surprising source of antibiotic-resistant bacteria in ICU

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During a nationwide outbreak of healthcare-associated infections of an antibiotic-resistant bacteria, an Israeli hospital traced repeated infections of patients in its intensive care unit (ICU) to an unexpected source—sink traps, according to a study published today in *Infection Control & Hospital Epidemiology*, the journal of the Society for Healthcare Epidemiology of America.

"Understanding the source of these [resistant bacteria](#) and how they were being spread was essential to effectively intervening and preventing the further spread," said Gili Regev-Yochay, MD, lead author of the study and Director of the Infection Prevention & Control Unit at Sheba Medical Center at Tel HaShomer in Israel. "While we were unable to prevent the sink [traps](#) from being colonized, by changing our behavior associated with the sinks we have prevented the spread of these infections."

From January 2016 to May 2017, 32 cases of OXA-48 Carbapenemase-producing Enterobacteriaceae (CPE) were detected, with all but the first two traced to the same bacteria. Most cases were initially detected through routine screening, 11 developed clinical infections, and three deaths were directly attributed to these infections.

The [infection control](#) team work closely with staff from the ICU—including clinicians, cleaning staff, a pharmacist and social worker—to systematically trace the source of CPE contamination to 22 sinks in the 16-bed ICU. Frequent decontamination of the sinks using

different techniques only temporarily eliminated bacteria. However, decontamination combined with the adoption of sink contamination prevention guidelines eliminated new infections.

CPE is usually spread from one patient to another through contact with staff or objects moved from room to room. But increasingly, hospital water has been recognized as a source of carbapenem-resistant organisms, the authors said. Running water from a sink can create an aerosol contamination of bacteria that can spread at least a meter from the sink during handwashing, authors said. Effective guidelines used by researchers included limited use of sinks in patient rooms, only using sinks for hand washing when necessary, a ban on clinical waste disposal in sinks, and avoiding storage of materials near the sinks.

Initial sink decontamination efforts included routine cleaning with bleach and later with acetic-acid, but weekly sampling showed that these efforts were effective for only a short time. In one room with a contaminated sink, a self-disinfecting sink trap was installed, but the trap was removed after a patient in a neighboring room acquired an [infection](#) from the same [bacteria](#) that was detected again in the new trap.

More information: Gili Regev-Yochay et al, Sink traps as the source of transmission of OXA-48–producing *Serratia marcescens* in an intensive care unit, *Infection Control & Hospital Epidemiology* (2018). [DOI: 10.1017/ice.2018.235](https://doi.org/10.1017/ice.2018.235)

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